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Date: Fri, 29 Dec 1995 23:49:33 -0500

To: katieh@zilker.net (Katie Hafner)

From: crocker@cybercash.com (Steve Crocker)

Subject: Re: rewrite of meetings

Cc: crocker@cybercash.com

At 9:08 PM 12/29/95, Katie Hafner wrote:

>steve: i've rewritten that meetings section. could you take a look at the
>following?
>thanks,
>k.

Katie,

I believe Barry Wessler was not just "one of the young program managers" but was, in fact, the only program manager at ARPA/IPTO at the time. Barry is important in his own right in the story of the birth of the Arpanet and should be mentioned. He put a lot of work into the project with Larry and deserves more attention than he's gotten. I believe he had a strong hand in drafting the RFP and in evaluating the proposals. He left ARPA to go to Utah, where he got a PhD, and then he helped found Telenet. He's worked closely with Larry Roberts from then until a short time ago.

At the graduate students conference, it was Barry, not me, who was trying to drum up interest in the forthcoming Arpanet. I was interested in artificial intelligence and program verification and had an appreciation of other cool things like "graphics, ... novel computer architectures and programming languages," and I was not yet particularly interested in computer networks at that point in time.

I have rewritten the paragraph, keeping most of what you wanted to convey but rearranging quotes, etc.

With respect to the role of the graduate students meeting in the early summer, the effect was diffuse and broad but also lasting. It helped create a sense of community across the various ARPA projects. The meeting later that summer and the meetings that followed from it involved the people at each site who were directly involved in connecting their computers to the net and in designing the protocols, but the graduate student conference in June -- as well as the annual graduate student conferences that followed -- touched the present and future *users* of the network and paved the way for all manner of collaborative efforts over the next two decades.

The two meetings that summer were thus really very different in nature. The network working group sprang entirely from the latter meeting. I've rewritten that section to reflect the separate nature of the two meetings.

My travel budget did not become an issue until Kleinrock's contract renewal, which I think was 1970. I modified your description to reflect this.

The time from the first meeting in late summer 1968 to the first RFC in spring 1969 was more than a "month or so." I modified it to read "a few months."

The modifications incorporated below are for your convenience; use as you see fit.

Steve

Bob Taylor had instituted a graduate students' version of the principal investigators meetings and, to keep the meetings from being dominated by the elders, no one over 30 was allowed to attend. This meant Taylor himself was barred from attending, so he sent Barry Wessler, his young program manager. The first meeting as a group took place in late June, at the Allerton House, a conference center owned by the University of Illinois.

Steve Crocker arrived with a slightly arrogant assumption: perhaps ten percent of his fellow attendees would be doing interesting or important things, or would themselves be interesting people. To his surprise, the proportion turned out to be much higher. Almost everyone there was doing cool things, and Crocker immediately decided it might be fun to work at ARPA. A few years later, he actually did.

Wessler spent some time at the meeting trying to interest the group in the forthcoming grand network project, but Crocker, like most of the other graduate researchers were graphics, artificial intelligence, novel computer architectures and programming language innovations that dominated the computer science research scene at the time. Nonetheless, Crocker recalls, "the social ties forged at the meeting fostered an important sense of shared purpose among the young researchers working on ARPA projects across the country. These ties would form an important underpinning for the complex technical collaborations still to come."

Later that summer, an entirely different sort of meeting also played a pivotal role in shaping the development of the Arpanet. Representatives from the four selected host sites -- UCLA, SRI, UC Santa Barbara and the University of Utah -- were invited to a meeting to discuss the forthcoming Arpanet. Several of them, including Crocker, were graduate students who had gotten to know each other at the meeting in June. All this group knew, mainly, was that the network was a plan in the works. They'd been given precious few details beyond that. But networking in general, and the ARPA experiment in particular, were hot topics. This meeting was, as Crocker later described it, seminal, if only because of the enthusiasm it generated. "We had lots of questions -- how IMPs and hosts would be connected, what hosts would say to each other, and what applications would be supported," he said. "No one had any answers, but the prospects seemed exciting. We found ourselves imagining all kinds of possibilities -- interactive graphics, cooperating processes, automatic data base query, electronic mail -- but no one knew where to begin."

The participants of this latter meeting formed the corps of researchers devoted to working on, thinking through, and scheming about the ARPA network. To speed up the process of protocol development, they began meeting regularly. These meetings grew in size and number, and Crocker found himself traveling heavily. Theoretically, a computer network would cut down on some of the ARPA-funded travel, but by 1970 Crocker was traveling enough to require Kleinrock to seek a separate travel budget for him.

A few months after the new group began meeting, it became clear to Crocker and others that they had better start accumulating notes on the discussions. If the meetings themselves were less than conclusive, perhaps the act of writing something down would help order their thoughts. Crocker volunteered to write the first document. He was an extremely considerate young man, sensitive to others. "I remember having great fear that we would offend whoever the official protocol designers were." Of course, there were no official protocol designers, but Crocker didn't know that. He was living with friends at the time and worked all night on the first note, standing in the bathroom so as not to wake anyone in the house. He wasn't worried

about what he wanted to say so much as striking just the right tone. "The basic ground rules were that anyone could say anything and that nothing was official."